

*The following Draft Agreements constitute the first round of the cooperative agreement negotiation process. These are **proposals** submitted by participating companies that lay out their commitments to superior environmental performance as well as their **initial requests** for regulatory flexibility.*

These Draft Agreements may not be complete and additions and changes may be made during the negotiation process.

Environmental Cooperation Agreement between Packaging Corporation of America and Wisconsin Department of Natural Resources

This Agreement is being entered into, pursuant to sec. 299.80 Wisconsin Statutes and represents the negotiated and agreed to conditions agreed upon by the Wisconsin Department of Natural Resources (WDNR) and Packaging Corporation of America (PCA), for the purpose of providing an alternative method of regulation of environmental impacts from Packaging Corporation of America.

FOR AND IN CONSIDERATION of the terms and conditions contained in this agreement, WDNR and PCA set forth the following:

I. FACILITY INFORMATION:

Packaging Corporation of America
N9090 County Road E
Tomahawk, WI 54487

Contact:
John Piotrowski
Environmental Engineer
(715) 453-2131 ext. 349 Fax (715) 453-0476

II. DEFINITIONS.

The following definitions are applicable to this agreement:

- a. "Approval" means a permit license or other approval issued by the department under chapters 280-295, Wisconsin Statutes.
- b. "Cooperative agreement" means an agreement entered into under section 299.80(6), Wisconsin Statutes.
- c. "Environmental management system" means an organized set of procedures implemented by the owner or operator of a facility to evaluate the environmental performance of the facility and to achieve

measurable or noticeable improvements in that environmental performance through planning and changes in the facility's operations.

- d. "Environmental performance" means the effects whether regulated under chapter 280 to 295 Wisconsin Statutes or unregulated, of a facility on air, water, land, natural resources and human health.
- e. "Facility" means all buildings equipment and structures located on a single parcel or on adjacent parcels that are owned or operated by the same person.
- f. "Interested person," means a person who is or may be affected by the activities at a facility that is covered or proposed to be covered by a cooperative agreement or a representative of such a person.
- g. "Performance evaluation" means a systematic, documented and objective review conducted by or on behalf of the owner or operator of the facility including an evaluation of compliance with the cooperative agreement covering the facility, approvals that are not replaced by the cooperative agreement and the provision of chapters 280 to 295 and rules promulgated under those chapters for which a variance is not granted.
- h. "Pollutant" means any of the following: any dredged spoil, solid waste, garbage, refuse oil, sewage sludge, munitions, chemical wastes, biological materials, radioactive substance, heat, wrecked or discarded equipment, rock, sand, cellar dirt, or industrial, municipal or agricultural waste discharged into water or onto land. Any dust, fumes, mist, liquid, smoke, other particulate matter, vapor, gas odorous substance or any combination of those things emitted into the air but not uncombined water vapor.
- i. "Violation" means a violation of a cooperative agreement, of an approval that is not replaced by the cooperative agreement or of a provision of chapters 280 to 295 and rules promulgated under those chapters for which a participant has not received a variance.

III. PERIOD OF AGREEMENT.

This agreement shall commence, subject to its signing by both parties on [date] and continue until [date 5 years hence] during which period PCA and WDNR shall abide by all terms and conditions contained herein.

IV. AMENDMENT/REVOCATION.

WDNR may amend this agreement with the consent of PCA. WDNR may, after an opportunity for hearing, revoke this agreement for cause. WDNR may revoke an agreement at the request of PCA or if PCA is in substantial noncompliance, refuses to amend this agreement or unable or unwilling to meet commitments to superior environmental performance or have not addressed a substantive issue raised by a majority of the interested persons. (s.299.80(7), Wis. Statutes)

V. ENTIRE AGREEMENT.

This agreement, together with any specifications, reference parts, attachments and effective amendments, shall constitute the entire agreement. Communications or understandings made prior to the signing of this agreement and pertaining to its subject matter are hereby superseded. All revisions to this agreement must be made by a

written amendment to this agreement, signed by both parties and issued under the same procedures as this agreement.

VI. APPROVALS COVERED.

Air

40 CFR Part 63 Subpart S (EPA MACT I Rule – Pulp Mill Emissions)
AM-93-97 (Administrative Order – Good Wood Combustion)

Water

WI-0002810-6 (WPDES – Wastewater Permit)

VII. INTERESTED PERSONS GROUP.

PCA has identified the following persons or groups that will be asked to participate as members of a stakeholders group of this project: Tomahawk Schools, Wisconsin DNR, PCA-Tomahawk Employees, Jack Huston – Chairman Bradley Town Board. As formalization of this group has yet to occur, the anticipated roles of participation would include information sharing.

VIII. COMMITMENT OF ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

PCA commits to develop an environmental management system by the end of the Year 2000.

IX. COMMITMENT TO SUPERIOR ENVIRONMENTAL PERFORMANCE.

PCA-Tomahawk has a history of aggressive pollution prevention efforts. PCA is committed to superior environmental performance by setting goals to:

- Reduce waste
 - Increase recycling
 - Reduce emissions
 - Increase employee/community awareness
 - Use the targets and goals of the EMS process to identify reduction opportunities
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X. POLLUTION LIMITS.

[Enforceable and at least as stringent as current limits]
[Carry requirements from any current approvals replaced]

XI. OPERATIONAL FLEXIBILITY AND VARIANCES.

A. MACT I Alternative Compliance Plan

MACT I Alternative Overview

The ECA allows PCA to design and install site-specific pollution control devices to limit releases to the environment of hazardous air pollutants (HAPs) addressed in 40 CFR Part 63, Subpart S (Maximum Achievable Control Technology or MACT I). In lieu of collecting and incinerating non-condensable gases (NCGs) produced by pulp mill sources as prescribed by MACT I for the semi-chem subcategory, PCA shall collect and hardpipe to the wastewater treatment plant anaerobic basins foul condensates from the following sources:

- a. blow heat recovery primary and secondary condensers
- b. liquor evaporator non-condensable gas vents
- c. hot well vent

Rationale

EPA's MACT I rule requires that stand alone semi-chemical pulp mills collect Low Volume High Concentration (LVHV) gases produced by pulp digesters, spent liquor evaporators and hotwell vents and route them to an incineration device for thermal destruction. Prior to February 1999, PCA's digester relief gases discharged directly to the atmosphere via a digester blow tank vent. Between April 1998 and February 1999, PCA installed and brought online a blow heat recovery system (BHRS) consisting of primary and secondary condensers that recover heat energy from the flash steam released by the digester blow tank vent. NCGs released from the BHRS are classified by MACT I as an LVHC stream requiring thermal destruction.

To properly engineer a collection system for the BHRS vent, emission testing was conducted to characterize the organic content and flow rate of the LVHCs. Testing conducted in March 1999 determined that the concentration of total hydrocarbons (THC) in BHRS vent gases was significantly lower than expected. Additional investigation revealed that over 90% of organic compounds released from the pulp digesters partition into the foul condensate stream. Subsequent testing conducted in November 1999 confirmed the initial test results.

As promulgated MACT I for the semi-chemical subcategory does not require collection or treatment of these foul condensate streams. The rule allows the reuse of said condensates in other mill processes such as pulp washing, cooking liquor make-up, shower water, etc. However, organic compounds in the reused condensates will ultimately be released to the atmosphere as fugitive emissions. Consequently, installing a pollution control system that complies with 40 CFR Subpart S will result in the collection and treatment of less than 10% of the organic compounds produced by PCA's pulping process.

Proposed Alternative

PCA proposes to collect the foul condensates produced by the BHRS primary and secondary condensers and spent liquor evaporator NCG/hotwell vent condenser in lieu of collection and thermal destruction of MACT I

designated LVHC gases. Described foul condensates will be hardpiped directly to the facility's wastewater plant for biodegradation. Published studies (enclosed) report that pulp mill foul condensates are highly amenable to biotreatment with treatment efficiencies exceeding 98% for methanol, the primary organic constituent in the foul condensates.

Collection and treatment of defined foul condensates affords an order-of-magnitude environmental benefit compared to LVHC collection and incineration. Chart 1 compares the mass balance benefit of PCA's proposed compliance alternative against the MACT I standard. Chart 1 data were reduced from LVHC and foul condensate tests conducted (at EPA's request) on November 17, 1999.

Chart 1

Parameter	Lb/yr in Collected Condensate	Lb/yr in LVHC
Methanol	1,197,990	46,413
Acetaldehyde	93,356	59,572
Methyl Ethyl Ketone	43,676	21,491
Formaldehyde	1,471	190
TOTAL	1,338,493	127,666

*Lb/yr calculation based on actual 1999 pulp production and 11/17/99 emission report.

Monitoring

PCA shall continuously monitor aforementioned pulp mill foul condensate flow rates sent to wastewater treatment. Total monthly flow volumes shall be documented and records kept on file for five (5) years. The foul condensate standpipe shall be equipped with a continuous overflow detection monitoring system that will alert mill operation of the system bypass. Wastewater treatment plant monitoring shall occur daily per WPDES permit No. WI-0002810-6.

Treatment Bypass

NCG condensate bypass to open mill sewers shall be limited to a maximum of one (1) percent of annual mill operating time due to pulp mill start-up, shut-down, or malfunction. A startup, shutdown and malfunction plan will be prepared for this compliance alternative.

Timeline

Control systems designed to collect and biodegrade Subpart S HAPs will be fully operational by April 16, 2001.

B. Good Wood Combustion

The ECA allows PCA to delete the existing good wood combustion power boiler firebox exit temperature requirement of 1250°F, on an eight (8) hour average, as a compliance requirement as listed in Administrative Order AM-93-97 and derived from NR 445.05(3)(c)6, Wis. Adm. Code. Compliance with good wood combustion requirements shall be determined via continuous monitoring of carbon monoxide (CO) in the

exhaust gases of mixed fuel power boilers B24 and B27. The 8-hour rolling average ceiling for CO concentration shall be modified from 500 ppm to 800 ppm on boiler B27.

Rationale

Collaborative research testing conducted by WDNR at PCA in 1996 and 1997 concluded that, "...products of incomplete combustion, such as benzene in particular and organic compounds in general (as THC) may in effect be monitored by simply keeping track of CO concentrations." A copy of the published report is enclosed.

Boiler B27 was extensively modified in 1995 and 1996 to allow for increased wood combustion rates within the carbon monoxide emission restrictions imposed by good wood combustion criteria. Despite the modifications, wood combustion rates have not increased due to limitations inherent to the boiler's design while sulfur dioxide emissions from boiler B27 have risen sharply since 1994 when good wood combustion requirements were imposed. Chart 2 summarizes fuel consumption rates and SO₂ emission rates for this boiler.

Chart 2

Year	B27 Coal Use (tons)	B27 Wood Use (tons)	SO2 Emissions (tons)	Formaldehyde Emissions (lb)
1993	3912	53715	242	355
1994	3360	51257	207	339
1995	16511	39271	1020	260
1996	23007	31017	1421	205
1997	17727	20575	1098	136
1998	19668	20905	1218	138

Compliance with good wood combustion criteria has reduced formaldehyde emissions by an average of 162 lb/yr (1993/94 vs. 1995/98). However, average sulfur dioxide emissions increased by 964 tons/year over the same time period. In other words, each pound of formaldehyde emission reduction resulted in nearly 6 tons of increased sulfur dioxide emissions. PCA asserts that the environmental impact of the increased SO₂ emissions outweighs the environmental gains associated with organic emission reductions.

Increasing the 8-hour average ceiling concentration of CO on boiler B27 to 800 ppm will measurably increase biomass utilization causing only a modest increase in formaldehyde emissions while concurrently reducing fossil fuel use. WDNR developed site-specific good wood combustion guidance flexibility in part due to the organic emissions research and capital project work performed on boiler B27.

Monitoring

PCA shall continuously monitor CO emissions from Boilers B24 and B27 via dedicated continuous emissions monitors. Boiler B24 shall comply with the conditions set forth in AM-93-97 with the following exceptions:

- When combusting wood wastes, B27 shall comply with an 800 ppm rolling 8-hour CO limit (or 1 hour limit during periods associated with the re-establishment of an 8-hr limit).
- Continuous temperature monitoring shall not be required on either boiler B24 or B27.

Timeline

Implementation will become effective upon the signing of this agreement by both parties.

XII. BASELINE AND PERIODIC PERFORMANCE EVALUATIONS.

Within 180 days of the signed Agreement, PCA shall perform and submit to WDNR a baseline performance evaluation covering their environmental performance. This evaluation shall be repeated annually on the anniversary date of the baseline submittal or on another date mutually agreed to by WDNR and PCA. Results of the performance evaluations shall be shared with the interested persons group.

XIII. REPORTING OF VIOLATIONS.

Any violations discovered as part of the baseline or annual environmental performance evaluation shall be disclosed to the Department within 45 days of the completion of the evaluation. WDNR will not take any civil enforcement action on any such reported violations if they are corrected within 90 days of notification. This does not exempt PCA from the requirements for immediate notification contained in s. 292.11, Wis. Statutes.

If a longer period of time is needed to correct the violations, a compliance schedule can be negotiated and the Agreement modified allowing a compliance schedule of up to 12 months.

XIV. MEASUREMENT AND ASSESSMENT.

PCA will provide a written performance report to the Agency and stakeholders group on an annual basis with the first annual report submittal due 1/31/2002. PCA will select the actual submittal date within 60 days after the effective date of this agreement. This report will include:

1. A list of current and newly identified objectives and targets for the next year.
2. A list of current and newly identified significant tasks.
3. An evaluation of PCA's EMS program after the first year of EMS implementation:
 - Review whether the current environmental objectives/targets have been met. If the current objectives/targets have not been met, provide the reasons they were not met.
 - Review whether PCA has performed significant tasks. If tasks have not been performed, provide the reasons.
4. An analysis of the reasons, achievements and difficulties encountered performing the objectives, targets and tasks
5. A discussion of waste management activities carried out under the Agreement.

6. A discussion of pollution prevention activities and any measured reduction in emissions, discharges or wastes achieved through pollution prevention.
 7. A discussion of any revisions or updates to PCA's EMS program.
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XV. APPLICABLE LAW.

The laws of the State of Wisconsin shall govern this agreement. Except as provided herein, PCA shall at all times comply with all Federal, State and Local laws, ordinances and regulations in effect during the period of this agreement.

XVI. ADDRESS.

All correspondence and communication shall be directed to the appropriate contact person listed below. Changes in the information listed below shall be forwarded to the other party when effective and will become part of this agreement without a formal amendment.

Wisconsin Department of Natural Resources
Bureau of Cooperative Environmental Assistance
P.O. Box 7921
Madison, WI 53707-7921

Packaging Corporation of America
N9090 County Road E
Tomahawk, WI 54487
Attn: John Piotrowski

XVII. CERTIFICATION

IN WITNESS WHEREOF, the parties by their signature shall cause this Agreement to be executed on the date aforementioned.

Signed for an on behalf of:

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES

Date:

By:

Title:

Signed for and on behalf of:

PACKAGING CORPORATION OF AMERICA

Date:

By:

Title: